R E P O R T R E S U M E S

ED 018 899 EC 001 478

STUDIES OF GIFTED CHILDREN COMPLETED BY STUDENTS AT THE UNIVERSITY OF KANSAS. KANSAS STUDIES IN EDUCATION, VOLUME 17, NUMBER 1.

BY- CORNISH, ROBERT L.
KANSAS UNIV., LAWRENCE, SCH. OF EDUCATION

PUB DATE JAN 67

EDRS PRICE MF-$0.25 HC-$1.76 42P.

DESCRIPTORS- *EXCEPTIONAL CHILD RESEARCH, *GIFTED, *IDENTIFICATION, *ACHIEVEMENT, *EDUCATIONAL NEEDS, RESEARCH REVIEWS (PUBLICATIONS), RESEARCH PROJECTS, ACADEMIC ABILITY, CREATIVITY, TALENTED STUDENTS, UNDERACHIEVERS, EDUCATIONAL PROGRAMS, EDUCATIONAL PROBLEMS, MUSIC, ABILITY, TEACHER ATTITUDES, STUDENT ATTITUDES, CURRICULUM, SELF CONCEPT, LANGUAGE ARTS, HIGHER EDUCATION, GROUPING, ACADEMIC ACHIEVEMENT, THOUGHT PROCESSES, PREDICTION,

ABSTRACTS OF 27 STUDIES WERE COMPILED AS EXAMPLES OF INVESTIGATIONS MADE BY TEACHERS CONCERNED WITH THE INDIVIDUAL QUALITIES OF GIFTED CHILDREN IN THEIR SCHOOLS. THE STUDIES ARE ARRANGED IN FOUR SECTIONS--IDENTIFICATION AND CHARACTERISTICS, ACHIEVEMENT IN SCHOOL, HIGHER EDUCATION, AND EDUCATIONAL PROVISIONS AND PROGRAMS. EACH SECTION PROVIDES A SHORT INTRODUCTION WITH DISCUSSION OF DEFINITIONS, PROBLEMS, OTHER RESEARCH FINDINGS, AND PRACTICES. TOPICS TREATED INCLUDE THE NEED FOR PROPER IDENTIFICATION OF ACADEMIC TALENT, CREATIVE TALENT, KINESTHETIC TALENT, PSYCHOSOCIAL TALENT, PRACTICAL PROBLEMS OF UNDERACHIEVEMENT, NEGLECT IN THE LITERATURE OF APPROACHES TO THE GIFTED AT THE COLLEGE LEVEL, AND THE NEED FOR DEFINITE EDUCATIONAL PROGRAMS FOR THE GIFTED. ALSO CONSIDERED ARE SELF CONCEPT, TEACHER AND TEST IDENTIFICATION CRITERIA, CREATIVITY, MUSICAL ABILITY, TEACHER ATTITUDES, ATTITUDES OF GIFTED CHILDREN, LANGUAGE ARTS CURRICULUM, TYPES OF THINKING, PREDICTION OF ACADEMIC SUCCESS, AND GROUPING. (CB)

ED018899

Studies of Gifted Children Completed by Students at the University of Kansas

EC 001 478

By

ROBERT L. CORNISH
School of Education, University of Kansas

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

KANSAS STUDIES IN EDUCATION

UNIVERSITY OF KANSAS PUBLICATIONS
SCHOOL OF EDUCATION—LAWRENCE, KANSAS

Vol. 17 January, 1967 No. 1

FOREWORD

The present decade has witnessed an upsurge in interest in the education of the gifted. This issue of *Kansas Studies* is not only a testament to this fact but also indicates that teachers and administrators are doing considerable research in their own schools in order to find the answers to problems which are still unsolved. We are happy to share with our readers the findings from a selected group of 27 studies that were completed by graduate students of the University of Kansas. We are sure that the school men and women of Kansas will find much that is new in this issue of *Kansas Studies.*

In addition to the discovery of much new information and the dissemination of it, we are interested in the professional growth experienced by all those who have undertaken these investigations. We hope that such studies will stimulate even more research in the schools of those who have contributed to this issue and in the schools of their colleagues as well.

THE EDITOR

Table of Contents

	PAGE
INTRODUCTION	1
PART I: IDENTIFICATION AND CHARACTERISTICS	2
PART II: ACHIEVEMENT IN SCHOOL	18
PART III: HIGHER EDUCATION	24
PART IV: EDUCATIONAL PROVISIONS AND PROGRAMS	30

THE UNIVERSITY OF KANSAS SCHOOL OF EDUCATION

Editor of *Kansas Studies* ..... Oscar M. Haugh
Assistant Editor ..... Edwyna C. Gilbert
Executive Editor ..... Kenneth E. Anderson
Editorial Board ..... Ernest E. Bayles, Karl D. Edwards, Marcus E. Hahn, Wayne H. Osness, Richard M. Rundquist

Kansas Studies in Education is published during the school year as studies worthy of publication become available. Additional copies of this issue will be furnished at cost upon request to the Dean of the School of Education.

Studies of Gifted Children Completed by Students at the University of Kansas

ROBERT L. CORNISH

Introduction

In the past 20 years there has been a tremendous upsurge in the concern about and action for the development of talent throughout the world. Concern for the education of the gifted is by no means new; however, since the advent of the first Sputnik, schools and society have both been doing more to encourage talented youth. Much has been accomplished in educating the gifted children in American schools, but much remains to be done. If one looks only at the number of boys and girls in the United States possessing some kind of giftedness, the urgency for better educational provisions for this group is further emphasized. As many as ten million children (IQ of 116+) in our schools and colleges need some type of special educational provision to develop their talents most effectively. Approximately two million (IQ of 132+) need a differentiated program, and as many as fifty thousand (IQ of 148+) require a completely individualized program to meet the needs of their superior ability adequately. If one really believes in the idea that democracy is committed to education for all who are educable, then he is further committed to the idea that it is inherent in our democracy that every child is entitled to an education to the maximum of his capabilities.

Not only interest, but also the amount of research and the number of publications in this area have increased greatly in recent years. More and more educators are becoming aware that the needs of our talented youngsters are not being adequately met, and this group needs special educational provisions. It is not satisfactory to leave them in the regular classroom and expect the teacher to offer enrichment activities and experiences which are adequate in terms of each student's needs and abilities. It is common knowledge that education is slow to change. Educational research is unanimous in approval of acceleration, yet this is looked upon with much disfavor by many people. If we are to further the development of this much needed talent, then our schools and colleges must make better provisions for the education of our gifted youth.

These studies are examples of what teachers can do in their own classrooms to investigate the ways of improving the quality of education for gifted youngsters. Perhaps their greatest value is that they are an example

of what a teacher can do by himself, a way in which a teacher can grow professionally. Many contributors remarked that their investigations made them more aware of the "individuals" in their class. They felt it improved their teaching because they attempted to meet the needs of individual differences better. It is hoped these studies will give others interested in the education of gifted children ideas of investigations to pursue in their schools.

Of special note is that many studies point out the difficulty in attempting to measure or evaluate identification procedures, evaluation of programs or other phases of the gifted program, because each child is different. Each student is an individual. Perhaps this is a word of caution against making broad general statements about gifted children. There is no specific mold into which all of these youngsters fit. It is not expected that any one of these studies will cause a revolution in the education of gifted children—but they have already made many school administrators and teachers more aware of the problem of making adequate provisions for these youngsters who will become our future scientists, doctors, and leaders of the world.

We would certainly all profit if all of our gifted youngsters were helped to lead a richer, fuller life. Many are aware of the lack of provisions for the gifted, but few do much to help them. The investigators mentioned in these studies tried to do something constructive.

The reader will note that the studies are arranged in four sections: Identification and Characteristics, Achievement in School, Higher Education, and Educational Provisions and Programs. There is a certain amount of overlap between one section and another. Because gifted boys and girls should be identified early and helped throughout their academic career, these studies range from kindergarten through college. Some of the investigations are an attempt to replicate the results found in previous research. All were done at the University of Kansas as part of the requirements for the course, Education of Gifted Children.

It is hoped that studies such as these will benefit both the investigator and the gifted youngsters in our schools. It is also hoped that society will reap further benefits by these persons of superior ability making their contributions toward a better life for all of us. Perhaps better educational provisions for gifted youngsters will lead to such benefits as a quicker solution to problems like the eradication of cancer and the banishment of wars from our society.

Part I: Identification and Characteristics

There is very little uniformity among educators in the definition of giftedness. Many people give a list of characteristics when they attempt to define a gifted child. There are different kinds of giftedness, but most kinds can be encompassed in four categories: academic talent, creative talent, kinesthetic talent, and psychosocial talent. Unfortunately, our schools pay

most attention to academic talent and tend to neglect the development of the other three.

Proper identification of gifted youngsters is more of a problem than many realize. Teacher judgment has not been effective and is being replaced as the main determiner by standard tests of mental ability. However, intelligence tests are far from perfect and recently have suffered severe criticism. New measures of intellectual ability are being tried out in an attempt to measure many facets of intelligence which previously have been overlooked. More importance is being given to such characteristics as flexibility, intellectual fluency, originality, and foresight. This idea that intelligence is multi-dimensional makes identification even more difficult.

Perhaps a closer look at some of the characteristics of gifted youngsters would help us to locate them. There is always danger in listing typical characteristics for a particular group of people; it is possible that no one in that group will fit this picture. However, from research studies done in the past, most gifted children deviate from the norm in the upward direction in nearly all traits. Of course, their greatest superiority is reflected in those things most closely related to intelligence. Even though they have most of the common physical defects and abnormal conditions, the incidence is lower.

In an attempt to partially solve the problem of identification, the writer recently completed a study with a group of four classes of sixth grade pupils. A part of the study was an attempt to find out how teachers, pupils, and parents perceive the ability of elementary school children. Teachers were requested to, ". . . rate the child according to his abilities. Do not rate him according to his achievement. Rate him in regard to what you think he is capable of doing." Also, each pupil was rated by himself and by his parents.

The participants in this study rated the children as Gifted, Above Average, Average, Below Average, and Retarded. Other data collected about the pupils in the study were (1) group achievement test scores, (2) group intelligence test scores, and (3) individual intelligence test scores.

Using individual intelligence test scores as the criterion with which to compare the data, 16 gifted youngsters were identified (IQ of 130+). Some results are given in the following table.

TABLE 1
Number of Pupils Designated as Being "Gifted" by Various Predictors

Predictor	Total Nominated	Correctly Identified	Did Not Nominate	Nominated—but were not in Gifted Category
Teachers	12	5(31%)	11(69%)	7
Pupils	5	2(12%)	14(88%)	3
Parents	4	2(12%)	14(88%)	2
Group Intelligence Test	16	9(56%)	7(44%)	7
Group Achievement Test	3	1(6%)	15(94%)	2

These results indicate that in sixth grade a group intelligence test score is the best predictor of a gifted pupil's ability. This measure also seems to miss fewer pupils. Teachers were the second best predictors, ranking ahead of pupils, parents, and group achievement test scores.

ELLSWORTH, HELEN E. "A Study of the Relationship Between Intelligence and Reading Achievement of 451 Gifted Students."

The reading achievement test records of 9359 students in grades one through four who were enrolled in 38 elementary schools in one school district were carefully examined in order to identify the students who might be considered intellectually superior. The first four grades were selected for study because data were obtainable from scores made on the kindergarten reading readiness test, together with reading achievement scores from the pre-primer, primer, first, second, and third readers, based on the *Ginn Basic Reading Series.*

From an enrollment of 9359 students, a sample population was obtained by the selection of all students whose IQ was 126 or above. In a normal distribution, 4.75 percent of the students should be above 126; with this minimum score for a base, 451 students were found to be in this category, or 4.8 percent of the total enrollment.

The *Otis-Alpha Quick Scoring Mental Ability Test* was given to all first graders during their first semester. The *Ginn Reading Achievement Test* was given at the completion of the basic text in each grade level. This investigation attempted to show the predictability of the *Otis-Alpha Test* as related to achievement in reading as measured by the *Ginn Reading Achievement Tests* used in successive grades. Scores obtained on the achievement tests were converted to either "low," "average," or "high" ratings. The following table shows the relationship of the level of reading achievement to the IQ established by the Otis-Alpha Test.

TABLE 1
IQ Score Related to Reading Achievement

First Grade Sample (Boys=44%, girls=56%) (Total first grade enrollment=2330)					*Second Grade Sample* (Boys=48%, girls=52%) (Total second grade enrollment=2282)				
IQ	Low	Average	High	Total No.	IQ	Low	Average	High	Total No.
146-150			2	2	146-150		2	3	5
141-145			7	7	141-145		2	9	11
136-140		1	11	12	136-140		2	13	15
131-135		10	27	37	131-135	1	7	27	35
126-130	2	17	40	59	126-130	1	17	48	66
Total	2 (2%)	28 (24%)	87 (74%)	117	Total	2 (1.6%)	30 (22.7%)	100 (75.7%)	132

TABLE 1 (continued)

Third Grade Sample (Boys=42%, girls=58%) (Total third grade enrollment=2378)					*Fourth Grade Sample* (Boys=42%, girls=58%) (Total fourth grade enrollment=2369)				
IQ	Low	Average	High	Total No.	IQ	Low	Average	High	Total No.
146-150		2	5	7	146-150		1	4	5
141-145		2	2	4	141-145			7	7
136-140			9	9	136-140		3	3	6
131-135		19	23	42	131-135		5	22	27
126-130	2	17	26	45	126-130	2	16	32	50
Total	2	40	65	107	Total	2	25	68	95
	(2.0%)	(37.3%)	(60.7%)			(2.1%)	(26.3%)	(71.6%)	

In the opinion of the investigator, this study showed a relationship between the measured IQ of the students and the scores which they made later on achievement tests. She concluded that the intelligence test probably could be used as a predictor of success in reading achievement.

DUNCAN, REBECCA LYNN. "A Survey To Determine What Are The Most Frequently Used Criteria by Teachers To Identify Gifted Youngsters."

Because of the increase in interest in recent years in the education of gifted youngsters, the writer conducted this study to attempt to find out what are the most commonly used criteria to locate these children. Information was obtained from a questionnaire which was distributed to 104 kindergarten through sixth grade teachers in 17 elementary schools in seven smaller Midwestern communities. Ninety-nine questionnaires were returned. Respondents were asked to check and specify those quantitative and qualitative measures of evaluation which they use to identify gifted youngsters. Categories listed under quantitative means were individual types including intelligence tests, diagnostic tests, readiness tests, aptitude tests, achievement tests, and others, including objective and subjective tests, chapter tests, work unit tests, six or nine week tests, and semester tests. Categories listed under qualitative means were teacher-pupil and teacher-parent interviews, questionnaires, anecdotal records, sociometric devices, and ranking and rating procedures. A more subjective section was included in which participants were asked to (1) indicate if they considered these evaluations to be important, (2) specify the evaluation measure they considered to be the most important, (3) specify the evaluation measure they considered to be the least important, and (4) indicate those traits or skills which they would like to assess more thoroughly.

Tabulation of the questionnaires showed that intelligence tests, whether of the group or individual type, were the chief determiners of intellectual giftedness. The *Wechsler Intelligence Scale for Children* and the *Stanford-*

Binet Intelligence Scale were the most popular among specified individual intelligence tests. More intelligence tests are given in the intermediate grades than in the primary grades, especially group intelligence tests. There is a frequency of usage of 85% per grade in the intermediate grades as opposed to 33% in the primary grades.

With only one individual diagnostic test and eight group diagnostic tests being indicated as opposed to 38 individual and 50 group intelligence tests, it appears that teachers are more concerned with finding their pupils' areas of capacities, patterns of strengths and weaknesses, rather than with their specific areas of learning deficiencies. It seems that "what's available" and "how much time does it take" are two important determiners in what type of test is used, as group tests are administered much more frequently than individual tests. Also more composite-type achievement tests are used than specific subject achievement tests.

Of qualitative measures, teacher-parent interviews seem to be the most common means, being used by 89 teachers. Teacher-pupil interviews are popular, being used by 75 teachers. It is of interest that teacher-parent relations are of approximately equal importance in primary and intermediate grades, while the importance of teacher-pupil relations doubles from primary to intermediate grades (52% per grade as compared to 96%). In contrast, questionnaires serving as a means of gathering factual information pertaining to the pupil's background were the least popular means.

Approximately 70% of the teachers indicated the use of anecdotal records, with the frequency of usage remaining almost constant in all seven grades. However, only 18% said they used sociometric devices to locate gifted leaders in their classes.

The least favored measures for identifying gifted children seem to be questionnaires, sociometric devices, and intelligence tests. The most favored measures of teachers from kindergarten through sixth grade seem to be teacher-parent and teacher-pupil interviews, achievement tests, and anecdotal records.

On the question pertaining to traits or skills of the gifted that teachers would like to assess more thoroughly, the following were mentioned: creativity, personality features, concentration, reasoning ability, and talents such as music or writing ability. In reviewing the data of this study, the writer felt the trend in teacher evaluation of gifted youngsters today is to attempt to evaluate all aspects of a child's growth: physical, mental, emotional, and social.

HAMMER, EDWIN K. "A Study of the Self-Concepts of Gifted High School Students."

In an attempt to study the self-concepts of a group of high school students enrolled in a program for the gifted, trait ratings of personality values were obtained from 31 gifted students and their parents. These scales for rating

traits were originally developed by Lewis Terman in studying the personality traits of 300 gifted men. The students in this study were rated on the Terman trait rating scales by themselves and by their parents. These trait ratings indicated how the student perceived himself and how the parent viewed the student in comparison to the average person. On individual psychological evaluation, the high school students in this class had earned an IQ of 120 or higher.

The self-concept of gifted high school students that was reflected by Terman's character traits indicated that these students considered themselves very social, persevering, and goal oriented. These students perceived themselves as relatively more free than the average person from sensitiveness. This may be interpreted by the theory that inner values urge the development of social experiences with a drive toward external goals.

The students viewed themselves as striving for independence, and as being less conforming than older subjects, although the students still tended to see themselves as prone to emotionality and impulsiveness. While their self-confidence was rated more near the average than the other gifted subjects, these students were viewed by their parents as being above average in self-confidence. The writer felt this explained why the students rated themselves as above average in absence of inferiority feelings, while their parents tended to rate them as below average in the absence of inferiority feelings.

In summarizing, it was stated that gifted high school students viewed themselves as being more sociable than the average person. Also, there was a consensus that these students were above average in perseverance and integration toward their goals.

JOHNSON, NANCY L. ANN. "A Comparison of the Arithmetic Performance of Students Identified as Superior with that of Students Identified as Average and Below Average."

The purpose of this study was to compare the arithmetic performance of students identified as superior with that of students identified as average and below average. At the same time daily arithmetic performance for the entire group was compared with performance on a standardized arithmetic test.

The students involved in this study were fourth grade pupils in an elementary school located in a suburb of a large metropolitan area. The classroom teacher was asked to select students of superior, average, and below average ability. She selected four students in each category. Her criteria for selection were based on daily arithmetic scores, the number of times it was necessary to rework corrections, and the amount of help that was required on daily assignments by the individual students. She also employed scores from general and achievement tests. Each child's IQ was obtained from his score on the *SRA Primary Mental Abilities Test*.

Performance measures of each child's daily arithmetic assignment were collected for a period of five weeks. The three performance measures used were (1) per cent of correct problems, (2) rate of correct problems, and (3) rate of incorrect problems. Rate scores (problems per minute) were obtained by dividing the number of correct and the number of incorrect problems by the total amount of time it took the child to complete his assignment. After the five-week period, the children were given a standardized arithmetic test. Performance on it was measured in the same manner as a daily performance.

When all the scores were plotted on a graph, the following results were obtained. The median rate of correct problems in daily performance was .5 problems per minute, and the median rate of correct problems for test performance increased to 1.25 problems per minute. This revealed a growth of 150 per cent or .75 problems per minute. Four of the children had a higher rate correct on the test than at any time during their daily work.

For rate incorrect, the median rate increased from .11 in daily performance to .58 incorrect problems per minute on the test, an increase of .47 problems per minute or 300 per cent. Eight students (66%) had a higher rate of incorrect problems per minute than at any time during their daily work.

The percentage of problems correct showed a decrease of 12 per cent from the median daily performance of 84 per cent to 72 per cent correct on the test. Two children went below their lowest point of per cent correct for daily work.

TABLE 1
The Correlation of Intelligence with Three Measures of Performance

IQ—Daily Rate Correct	T = +.41
IQ—Test Rate Correct	T = +.53
IQ—Daily Rate Incorrect	T = +.06
IQ—Test Rate Incorrect	T = —.27
IQ—Daily Per Cent Correct	T = +.43
IQ—Test Per Cent Correct	T = +.56

On all measures, the difference between the means for daily and test performance was significant beyond the .001 level. A test of association, the Kendall coefficient of correlation (*tau*) was used to determine the correlation of intelligence with the three measures of performance. Intelligence correlated with rate correct and per cent correct both on daily and test performance, but not with rate incorrect. Test performance correlated with intelligence ten points higher than daily performance, as can be seen from

Table 1. The teacher's selection of four superior students correlates only with IQ as measured from the *SRA Test of Primary Mental Abilities.*

The investigator concluded that this study pointed out the fact that children do not perform the same on a test as they do in the classroom. In fact, it demonstrated that distortions occur in the very performance the test is attempting to measure. On the test, the increased rate of correct problems is attained through a disproportionate increase in rate of incorrect problems; that is, the child works faster, but is more inaccurate. From this data, it was also indicated that the teacher was more influenced in her selection of superior students by IQ and test performance than by their daily performance.

The writer felt these results bear grave implications when the great emphasis being placed upon testing and test results is considered. The most serious damage of this misemphasis is not inflicted on the person who administers the test and makes use of its results, but on the child whose academic life is predicted by and even based on test results. The child who achieves at a high level in daily classwork, but who is unfairly evaluated or remains unidentified due to poor test performance is being cheated. Or, perhaps, more seriously, the child who is allowed to get by with relatively poor daily work because of high level test performance remains a source of untapped potential.

HUNTER, PATRICIA A. "A Study of How Elementary Teachers Define Giftedness and Characteristics They Look for in Gifted Children."

The purpose of this investigation was to discover how some elementary teachers in public schools define giftedness and what characteristics they look for in attempting to identify gifted youngsters. A second purpose was to determine, according to teachers' opinions, what types of special educational provisions should be provided for gifted children. Since most gifted youngsters in the elementary school are left in the regular classroom, it was felt that the teachers should be aware of what a gifted child is and how best to meet his educational needs.

A questionnaire was given to 50 teachers from various school districts who taught in different grades in elementary schools. The teachers were asked to answer four basic questions in the presence of the writer to avoid looking up definitions or suggestions of others.

The first question was, "Teachers frequently talk about gifted children. How would you define the term giftedness?" Most of the teachers responded to this question by giving several characteristics associated with giftedness. A few defined giftedness with synonyms such as "children who are bright or talented." Although one teacher stated that she didn't think IQ was important in defining gifted children, 40% mentioned mental ability in their definitions.

The second question was, "What characteristics do you think of in describing gifted children?" The answers to this question varied greatly. Most teachers gave several characteristics, but not an extensive list, which research indicates many gifted youngsters possess. "Inquisitive" and "learns quickly" were the most frequent responses. Of special interest is the response of one teacher who said, ". . . bright, shiny eyes that are always radiant!"

The third question asked of teachers was, "Do you think gifted children should receive any special educational instruction in the elementary schools? Why or why not?" Thirty-six believed gifted children should receive some type of special instruction in the elementary school. Several responses indicated that gifted children had been unfairly neglected and that other exceptional children had been provided for in the schools. Several responses indicated the value these children have to society.

The last question asked was, "If the answer to number three was 'yes,' what type of special instruction do you think would be best for gifted children in the elementary school?" Twenty teachers felt that gifted children should attend special classes part of the time and remain in the regular classroom the rest of the time. Ten teachers preferred full-time special classes. Five indicated enrichment within the regular classroom. None of the responses indicated acceleration as a means of special education.

This study made the writer more aware of the fact that teachers in the elementary school do not have enough information about gifted children. She suggested a guide be provided for teachers to help them identify the gifted children in their classrooms and also that institutions of teacher education provide prospective teachers with more knowledge about this segment of our population.

CLAFLIN, MARTHA. "Similarities and Differences Among Students of Superior, Average, and Low Ability."

The purpose of this study was to gather information that illustrated similarities and differences among children of superior, average, and low mental ability in a lower-middle class community. A questionnaire was prepared and distributed to three classes of junior high school students in a suburban school. The subjects selected were 30 students (16 males, 14 females); 10 were from an accelerated biology class (minimum IQ of 120); 10 from an average general science class (IQ 99-111); and 10 from a class for educable mentally retarded (IQ 55-75). The IQ scores for the superior and average students were obtained from the *California Test of Mental Maturity*. Individual intelligence test scores were available for the students with lower mental ages.

The divisions of the questionnaire dealt with family relationships, school relationships, activities outside of school, and future aspirations. Students were asked to mark the questionnaire about themselves and were told that

a composite picture of what they are like would be reported back to them. Though a composite picture may be presented for groups of students of superior, average, and low mental ability, teachers must keep in mind that characteristics of individuals vary widely from such descriptions.

Some of the more interesting findings from the questionnaire were

1. The students with higher mental ages all considered themselves to be doing as well in school as most of their peers. The average and low groups had strong though somewhat unrealistic estimates of their rank in class.

2. In response to the item, "I like classes where (1) the teacher makes direct assignments, (2) the students plan the projects, or (3) each person can choose his own work," none of the three groups seemed to favor a particular work style.

3. Average hours per week spent doing homework varied greatly among the groups: superior, 8.2 hours; average, 4.1 hours; retarded, .5 hours.

4. There was little difference among the groups in regard to number of hours spent per week in viewing TV. In contrast, the average number of books read the past year for fun showed a relationship to mental age: superior, 19; average, 12; and retarded, 8.

5. Students from all levels participated in each of the school activities listed (except none from the superior group was in band), but students in the superior group were active in three times as many activities as the retarded group and twice as many activities as the average group.

6. In regard to choice of TV programs, there was only a small amount of overlap among programs listed as favorites among the three groups.

7. Students from the superior groups listed a greater variety of sports they liked to play and also sports they liked to watch.

8. The superior students all indicated they expected to finish high school and go on to college. The average students indicated that 90% expected to finish high school, 30% expected to attend college, and 30% expected to obtain some other training. Ninety per cent of the retarded students hoped to finish high school.

The author concluded that the data gathered in the study, though the number of students was small, fit the expectations for the various levels of mental ability. However, the range within each level allows for wide individual differences. Only by considering these differences as well as the similarities can the teachers do an effective job of planning.

GUESS, DOUG. "A Study of Creativity in a Primary Classroom."

The first part of this study was designed to explore teacher perception of creative students in a primary classroom. Second, this research tried to replicate the sociometric findings of previous research among first and second

grade pupils. A third part of the investigation was to compare the teacher's ability to identify creative students as confirmed by findings from a test of divergent thinking.

One class of 29 second grade students was included in the study. Among this classroom group there were 13 boys and 16 girls. All were pupils in an ungraded school system.

The instruments and scoring procedures used were:

1. *Teacher Ratings of Classroom Adjustment.* The teacher was requested to rate each pupil on these classroom behavior characteristics: (a) his general desirability as a student, (b) his leadership qualities, and (c) his ability to become involved in learning activities. The teacher was required to rank the top nine students in each category as well as the lowest nine pupils. For each of the two extreme groups the teacher was further asked to identify the two very highest students and the two very lowest students. This procedure allowed five possible scores to be assigned to each of the three categories. The values of 15, 12, 10, 8, and 5 were subsequently used to quantify the ratings. Overall class adjustment ratings were obtained by adding each pupil's scores for the three categories.

2. *Teacher Ratings of Pupil Creativity.* In this aspect of the study the teacher was requested to rate the pupils according to their creative abilities as reflected in the classroom. Again, she was asked to nominate the nine highest students and the nine lowest students. As for the classroom adjustment ratings, she was further requested to choose the two most creative pupils from the high group and the two least creative pupils from the low group.

3. *Pupil Sociometric Ratings.* Sociometric data were obtained for the six criteria used by Torrance (1962). The pupils were asked to name their best friends (popularity), those who talk the most, those who think of the most wild or silly ideas, those who have the best ideas, and those who do not tell their ideas. For each criterion, the pupils were asked to nominate three classmates.

4. *Creativity Test.* The one measure of creative thinking included in this research was a non-verbal test which could be group administered. The *Circles Task*[1] required the pupils to draw objects from 36 circles reproduced on paper. This test was scored according to the divergent factors of fluency, flexibility, originality, and elaboration.

This investigation found no evidence to indicate that high-creative pupils are necessarily more poorly adjusted in the classroom than are low-creative pupils. It was difficult to compare this finding with previous research since older students were included before. It is doubtful, however,

[1]E. Paul Torrance. *Guiding Creative Talent.* Englewood Cliffs, N.J. Prentice-Hall, Inc., 1962

that the adjustment problems found earlier for highly creative pupils would be replicated in the primary classrooms, because creative primary pupils would be less threatening to the teacher than the older pupils and would not confront the teacher with situations or questions she could not handle.

Sociometric results from this study did not support the findings of others that highly creative boys are more often chosen for having silly ideas and ideas for being naughty. In fact, the boys nominated on these criteria in the present study were more frequently in the low-creative group.

There was also a slight trend for children who do not tell their ideas to come from the low-creative group. There was no relationship found between creativity scores and children who "talk the most."

The sociometric data from the investigation were not appropriate for statistical analysis. Only those pupils whose "sociometric stars" contained five or more nominations were considered. However, this study did not support the idea that highly creative boys are more often chosen for having silly ideas and ideas for being naughty.

The current study demonstrated little ability for the classroom teacher to identify creative pupils correctly as measured by a nonverbal test of divergent thinking. However, the author suggested that because of the small sample, the delineation of high, middle, and low creativity groups was mainly one of expediency and these groups may not necessarily reflect sufficiently large differences in creative thinking abilities.

DOUGHTY, CAROLYN. "A Study of Junior High School Pupils Whose Verbal and Nonverbal Skills Scores Differed Greatly."

Because it is frequently claimed that gifted students do better in tasks which place an emphasis on verbal skills, this study was made to compare seventh and eighth grade students whose verbal and nonverbal scores on the *Lorge-Thorndike Intelligence Test* differed 18 or more points. Out of a possible 63 students, nine were found whose scores differed by that much. The subjects were divided into two groups; those who obtained high verbal and low nonverbal scores were in one group, and those who obtained high nonverbal and low verbal scores were in the other.

The writer hoped to determine, through additional testing and a questionnaire, if these students would continue to show the same wide verbal and nonverbal variances on additional tests. It was also hoped that she might identify some of the factors which contribute to these differences in scores. The mean of the differences for the group scoring higher on verbal skills was 22. The mean of the differences for the group scoring higher on nonverbal skills was 24.5. The means of the verbal scores for both groups were very similar—97 and 101—indicating that the main difference between these two groups was their ability to do nonverbal tasks. The group scoring

higher on nonverbal skills had an average score of 121.5 in this section of the test. This indicated they could be considered gifted in these skills but fell into the average range in verbal skills.

For verbal skills tests the following items were used: verbal part of the *Lorge-Thorndike Intelligence Test,* the composite score on the *Iowa Test of Basic Skills,* the *Peabody Picture Vocabulary Test,* and social studies grades. For the nonverbal skills these items were used: *Lorge-Thorndike Intelligence Test,* a number repetition skill, a bead chain skill, a paper cutting exercise, a "What's silly about this picture?" exercise, and physical education grades. After testing in these areas, the students were asked to complete a questionnaire which attempted to locate any cultural influences which might contribute to a difference in scores between the two groups.

From the tests, the following conclusions were made: (1) On the verbal tests the students continued to score as they had done on the *Lorge-Thorndike Intelligence Test*—the high verbal students doing better on all tests except the composite score of the *Iowa Test of Basic Skills.* (2) On the nonverbal tests the students also continued to score as they had done on the Lorge-Thorndike. The high nonverbal subjects did decidedly better on all these tests except "Number Repetition Forward." (3) Both groups did poorly on the "Number Repetition Backwards," but this could have been due to the fact that both groups were in the average range in regard to verbal tasks.

The following conclusions were made after tabulating the results from the questionnaires: (1) Those who scored higher on the verbal section of the Lorge-Thorndike Tests were more interested in verbal activities such as reading, mathematics, and science. (2) More parents of the high verbal group attended college (66%) than the parents of high nonverbal students (18%). (3) More high verbal students (66%) expressed a desire to go to college than did nonverbal students (33%). (4) The choices of occupations were similar for both groups except for one nonverbal student whose only desire was to find a job that is easy. (5) Types of books read and after school activities showed no conclusive trends.

The writer hypothesized that those who did better on the verbal tests were more interested in verbal activities because their environment was oriented in this direction. Their parents attended college, and they wished to do the same. She concluded that environment played an important role in orienting children toward verbal activities.

MARSHALL, EDYTHE. "A Comparison of Certain Characteristics Between Academically Talented Students and Gifted Students."

"Do teachers differentiate between academically talented youngsters and truly gifted youngsters?" was the basic question of this study.

Comparisons were made from the responses to a questionnaire listing 37 characteristics usually thought of by most "authorities" in the field as pertaining to gifted youngsters. After examining the records in one elementary school, the writer located 72 children in grades three through six with IQ's in excess of 120 as measured by the *Lorge-Thorndike Mental Abilities Test.* Those falling in the range 120 to 130 were classified as being academically talented. Those with an IQ in excess of 130 were labeled as being gifted. There were 28 pupils in the first group and 44 in the latter.

Each student's teacher was asked to check those characteristics on the list which she thought the student possessed. In the teachers' opinions, differences between the two groups were found in the following characteristics:

1. The gifted group appears to be able to relate its thoughts more fluently than the academically talented youngsters.

2. Problem solving was performed more rapidly among the group with the higher IQ.

3. The students with an IQ of 130+ showed greater development of vocabulary skills. This group also contained more avid readers.

4. Teachers thought the students in the higher group were more self-critical, yet, they rated the two groups equal in regard to sensitivity to approval and disapproval.

5. While both groups were found to be more verbal than the average child, the gifted still exceeded the academically talented in this trait.

6. Ability to manage their own time was a trait in which the gifted group excelled.

The teachers noted no differences between the two groups in the following traits: (1) understanding and following directions, (2) citizenship, (3) discipline—not a problem in either group, (4) curiosity, possessing a good memory, and exhibiting good common sense, and (5) showing respect for others' opinions.

While obtaining the data for this study, the writer noted that the fifth and sixth grade students with an IQ of 130+ who have been enrolled in that same school since kindergarten showed a greater increase in their intelligence score (as measured by various forms of the same test) than those students who transferred to that school at a later date. Since this was a community where parents are well educated and children have had many valuable experiences, the writer concluded that home and school environment might have an effect in changing the intelligence score of a pupil.

LAMBRING, DONALD L. "A Comparative Investigation of the Correlation Among Intelligence, Task Completion, Final Grade, and Reading Ability."

The purpose of this investigation was to attempt to show whether there is any correlation among the factors of a student's intelligence, task completion time, final scores, and reading ability. Thirty-five accelerated seventh grade students had been grouped according to their ability in mathematics, but this grouping carried over to the investigator's unified studies class.

The *Lorge-Thorndike Intelligence Test,* Form A, level 4, Non-Verbal was administered to the 35 students. The results showed that the range was from 97 to 146; the mean, as well as the median, was 123.

To arrive at a figure for the task completion portion of the comparison, the writer used a part of a unit of work that was being prepared on the Soviet Union. The students were asked to record the amount of time it took them to complete five tasks. The first involved the labeling and coloring of an outline map of the Soviet Union. The remainder of the tasks required them to answer an average of 20 questions on each of four study sheets over material taken from their textbooks. Their time was not recorded until they had correctly answered all questions and the paper was checked by the teacher.

The final test score was arrived at through the administration of a comprehensive examination covering not only the five particular tasks but the entire unit of work. This examination was not taken as a group, but as each student completed the required work.

Reading test scores were used to offset the fact that the nonverbal form of the intelligence test was given and much of the task completion involved reading. The reading test was the *Gates Reading Survey Test,* Form M3 for grades four through ten.

After the scores for each item were gathered, they were ranked and correlated with each of the other sets of scores so that a cross reference table of correlations could be set up to show the relationship of each set of scores to the others. Cronback's rank difference correlation guide and formula[1] was used. The results are shown in Table 1.

TABLE 1
Correlation Coefficients of Four Sets of Test Scores

	IQ	Task Completion	Final Grade	Reading Ability
IQ		—.004	.152	.044
Task Completion	—.004		.207	.162
Final Grade	.152	.207		.350
Reading Ability	.044	.162	.350	

[1] Lee J. Cronback, *Essentials of Psychological Testing.* Harper and Row, New York, 1960, p. 111.

Contrary to what might be expected, the scores showed no significant correlation between intelligence and either task completion time, final grades, or reading ability. However, a higher correlation between reading ability and intelligence probably would have emerged had a verbal intelligence test been used.

The only score that appeared to be of any significant value was the one involving reading ability and the final test grade. The writer stated that this score was a valid predictor in that the final examination covered not only the material on the study sheets and in the remainder of the unit, but additional information contained in the textbook that the better readers would be more likely to retain.

The conclusion from this limited study was that although intelligence may predict ability, it provides no assurances of performance, at least not in the areas covered in this study.

MEYER, S. ANN. "A Comparison of Scores Obtained by 53 Children Who Were Administered Individual and Group Intelligence Tests."

Because most school districts use group intelligence tests and most testing authorities believe individual tests yield a more reliable score, the writer decided to compare the results of these two types of tests. Fifty-three kindergarten and first grade children in two different elementary schools were used in this study. The *S.R.A. Primary Mental Abilities Test* was administered to all the participants when they were in kindergarten. This is a group test which measures verbal meaning, number facility, reasoning, perceptual speed, and spatial relations. The *Stanford-Binet Intelligence Scale* was given to younger pre-kindergarten pupils as a screening device for admittance to school and also to children in the classroom who the teachers think displayed superior mental ability. This test measures, among other abilities, verbal ability, number ability, judgment, and the ability to remember and follow directions. It was hoped that the results of this study would enable school personnel to interpret the available test results responsibly and use these results for improved instruction and group placement. All the participants in this study were administered the two above-mentioned tests.

The mean score on the *Stanford-Binet Intelligence Scale* was 106.4; the median score was 107; and the range was from 85 to 133. The mean score on the *S.R.A. Primary Mental Abilities Test* was 116.5; the median score was 117; and the range was from 81 to 155.

When a scattergram was made it indicated a trend for the S.R.A. scores to show a wider range and to be relatively higher than the Stanford-Binet scores. Eighty-seven per cent of the 53 students scored higher on the S.R.A. test; four per cent scored the same on both tests; and nine per cent scored higher on the Stanford-Binet. Sixty per cent of the subjects had scores on

the two tests which did not vary more than ten points. The correlation[1] between the S.R.A. test and Stanford-Binet test was .53.

From these results, the writer cautiously said that one generalization could be made: children tend to score slightly higher on the *S.R.A. Test of Primary Mental Abilities* than they do on the *Stanford-Binet Intelligence Scale*.

Part II: Achievement in School

In dealing with gifted youngsters, it is always helpful to remember that the "I will" is as important as the "IQ." All experienced teachers have had pupils in their classrooms who they felt were capable of doing better work than that displayed. It is not necessary to pursue the trite phrase about our most valuable resource being wasted. The vital question is, "What can be done about it?"

Research indicates that increases in IQ are most often due to children's growing self-reliance, and this is fostered by success in mastering problems in school, at home, and at play. Since we know that independent children who have learned to compete successfully do better, children should be encouraged to be more independent and to face challenges. Self-confidence in a child is a valuable asset. Teachers should locate each gifted child's strengths and give him challenging opportunities to work successfully in these areas. This should lead him to enjoy intellectual problems.

The underachiever with superior ability is one whose performance, as judged either by grades or achievement test scores, is significantly below his high measured or demonstrated aptitudes or potential for academic achievement. Some estimates place up to 25 percent of the gifted students in most school systems in the category of underachievers. Most of these are chronic underachievers, that is, they have been underachieving from an early age, a fact which places much responsibility in the elementary school for identifying underachievers and helping them.

It is significant that the more successful gifted adults possess certain traits which less successful gifted adults do not possess. These traits are (1) more persevering, (2) more self-confident, (3) more integrated toward goals, and (4) better all-around socially adjusted. Perhaps these might give us some clues as to things to stress in the education of our gifted youngsters to help develop self-confidence and to instill the drive to achieve. How do we teach stick-to-it-tiveness, security, or good social adjustment? This is not an easy question to answer, but it might be a place to begin and give us an idea for a starting place in developing a curriculum for intellectually superior students.

---

[1] Allen L. Edwards. *Statistical Methods for the Behavioral Sciences*. Rinehart and Co., Inc., New York, N.Y., 1957, p. 147.

CONWAY, EVALINE E. "A Study of Underachieving High School Juniors."

The purpose of this investigation was to determine whether any correlation existed, especially in regard to the underchieving student, among students' interests, their grades and their intelligence quotients. The sample chosen for this investigation was the entire junior class at a high school in a small Midwestern community. Of the 113 juniors, 111 were enrolled in eleventh grade English.

In order to gather information for this study, intelligence quotients were obtained from the guidance office. A student was considered to be achieving if he had been on the Honor Roll for the first three quarters of the school term. There were 17 in this category. Intelligence quotients were obtained for a like number of students whose IQ's were the lowest in the class. Twenty of these lower IQ's were obtained because six students ranked 96. The range for the class was 65 to 135 plus.

This study also became an investigation concerning underachieving gifted youngsters when a discovery was made while gathering the information. It was found that 14 students with IQ's from 121 to 135 plus had never been on the Honor Roll, while six of the 17 students on the Honor Roll had IQ's on record of less than 110. The lowest of these was 102, the highest 109. Three of the Honor Roll students fell in the 131-135 range. It seemed obvious that some of the 14 underachievers were not working up to their capability, whereas some students on the Honor Roll were working with the greatest diligence.

A questionnaire was submitted to each eleventh grade student enrolled in English. It was labeled "Student Interest Survey" and had 32 separate questions with several of them subdivided in order to obtain more specific answers than could be obtained from a general form of the question. Instructions asked that each student should rate himself 1, 2, 3, 4, or 5 according to his degree of interest in those questions designed to measure interest. On the day the questionnaire was submitted five students were absent, thus, 106 students answered the completed survey form.

After considering student responses on the interest survey, grades, and intelligence quotients, the following conclusions were made:

For those on the Honor Roll (students receiving all "A's" or "B's")

1. There was a great variance in IQ among those students on the Honor Roll.

2. Girls far outnumbered boys.

3. Reading and study interests were rated as showing "considerable interest" and "high interest."

4. All but one student has a library of his own varying from an estimated 5 to 75 books.

5. All of these students plan to attend college.
6. All students report their parents own books.

For the Underachievers (students not on Honor Roll but with high IQ's)

1. There is less variance of IQ's among this group (121-135).
2. Boys outnumbered girls, 7 to 5.
3. Reading and study interests show greater variation (from "no interest" to "high interest") than in the other two groups.
4. Only one student has no library of his own. The others show ownership of from 5 to 30 books.
5. Parents' libraries vary from zero to 175 books.
6. Ten students plan to attend college, while one plans to enter military service, and one is undecided.

For those with IQ's less than 100

1. These students, on the whole, are older than the students in the other groups.
2. Reading and study habits were reported from the highest to the lowest with most of them in the low interest range.
3. One student reports owning no books, and he stated his parents owned none.
4. Among this lower group, 14 are boys and five are girls.

General conclusions from this study lead the writer to the following assumptions:

1. More boys than girls are underachievers.
2. More boys than girls fall into the lowest group in IQ's.
3. The Honor Roll is not a measure of ability, but is rather a measure of student application to assigned tasks.
4. Underachievers should somehow be better motivated.
5. Some students achieve beyond what would seem to be possible for them.
6. Girls take more pride in a scholastic job well done.
7. A study of this type makes the teacher more aware of the problem of underachievers and challenges her to make educational provisions for them.

STILLABOWER, WILMA. "A Report of the Case Histories of 30 Students Who Showed Signs of Advanced Achievement and Superior Intellectual Ability."

Case histories were written for 30 students in one elementary school after a survey was made to attempt to locate those students who were showing signs of advanced achievement and superior intellectual ability. The writer decided to study all students who had an IQ of 120 plus and an achievement average which indicated a two year advancement in work.

The teachers of these students were interviewed personally and were asked for an oral evaluation of the pupil. A questionnaire was sent to each parent for a brief history of the child. From the above mentioned sources and the school records, case histories were written and compared for the 30 students.

Because 21 of the pupils in the group were boys, the writer was led to question if her methods of identification, i.e., achievement and intelligence tests, were possibly geared toward the interest level of boys. Most of the findings are in agreement with other research in this area dealing with identification and characteristics of gifted youngsters. But once again, the writer cautions one not to make generalizations concerning academically superior youngsters. Although many of them possess certain traits, they do not fit into any one type of mold. Each child is different. Even though the children in this study were somewhat equal in intellectual ability, they still possessed different characteristics and each was a separate individual with his own peculiar characteristics.

In reviewing the case histories, one factor seemed to stand out above all the others. These superior children seemed to have had an advantageous childhood. Throughout the study, it was noted that most participants had parents or family members who were vitally interested in their pre-school years. This is brought out in the reports of early contact with books and other academic material. There were very few exceptions in this regard. In the writer's opinion, there also existed a good home environment in each of the cases.

ELSWEILER, MARGARET. "A Comparison of Case Studies of Achieving and Underachieving Third Grade Pupils."

In this project, out of four third grade classes, five students were selected who scored highest on intelligence tests and achievement tests. These students were compared with five other third grade pupils who scored high in intelligence but were achieving only at third grade level.

In Group I (achievers) were five girls. Using the *Otis Quick Scoring Mental Ability Test,* their IQ range was from 129 to 145, the average IQ was 137+, and their scores on the *Metropolitan Achievement Test* ranged from 4.4 to 5.0 with an average of 4.7. The average age of this group was 8.0.

Group II (underachievers) consisted of three girls and two boys with an IQ range of 122 to 129, the average being 125. Their average age was 7.9 with achievement scores ranging from 2.5 to 3.5 and an average of 2.7.

The writer met with the three other third grade teachers and the art, music, Spanish, and physical education teachers to discuss the 10 pupils selected. A study was made of each individual child, including grades, test scores, teacher opinions, home environment, and family background. In

other words, as much information was gathered about each child as was possible. The teachers agreed that all of these students possessed superior abilities and made an effort to help them in their work and to better motivate them in school.

Another form of the *Metropolitan Achievement Test* was administered at the end of the school year. This time Group I had an average score of 5.9 and Group II had an average score of 4.9. At the beginning of the school year there was approximately two years difference between the groups in their achievement, but eight months later there was only about one year's difference.

The writer concluded that a possible solution was reached because all teachers concerned met and discussed the problems of underachievers. Just being aware of who the underachievers are was also felt to be helpful.

JEROME, THOMAS G. "A Comparative Study of IQ, Age, Achievement, Father's Occupation, and Teacher's Judgment Between a Group of Band and Non-Band Students."

Are pupils who enroll in band more gifted intellectually? Is their achievement greater than non-band students? To attempt to answer these questions, a comparison of two groups was made. One group was made up of 32 fifth grade students who were enrolled in the school band. The other group of 32 students was randomly selected from an alphabetical list of non-band pupils from the same grade in the same school district. There were 15 girls and 17 boys in each group.

The results of the comparison can be found in Table 1. The age of the students is presented in years and months. The *Lorge-Thorndike Intelligence Test* was administered to obtain the IQ. The achievement scores were tabulated from the results of the *Stanford Achievement Test* given during the sixth month of the school year (4.6). The value for the father's occupation was arbitrarily rated with one being the lowest on a scale of three. The teacher's judgment value was determined by the classification given to the pupil. A value of five indicated gifted, three was average, and one was mentally retarded.

It can be noted from Table 1 that in all instances of collected information the band group is superior to the sample of non-band students. The average age for the students taking band was two months less. The greatest difference between the two groups was the overall average in reading. Using an IQ of 125 as a cut-off for gifted students, it was found that 31 per cent of the band group was included and 12 per cent of the non-band group. The writer noted that the range was great for both groups and concluded that each student had to be viewed as an individual.

TABLE 1
A Comparison Between Band and Non-Band Groups

Group	C.A.	IQ	Achievement Test			
			Mean	Reading	Spelling	Language
Band	9-9.8	114.2	5.6	5.8	5.5	6.2
Non-Band	10-1.6	106.6	5.0	5.0	5.0	5.4

Group	Achievement Test				
	Arithmetic	Social Studies	Science	Father's occupation	Teacher's judgment
Band	5.1	5.8	5.8	1.53	3.53
Non-Band	4.7	5.3	5.4	1.34	2.87

ELLSWORTH, HELEN E. "A Study of the Achievement of 451 Gifted Students."

From an enrollment of 9359 students in grades one through four in one school district, a sample was selected by choosing those who had scored 126 or higher on the *Otis-Alpha Quick Scoring Mental Ability Test.* There were 451 students in this sample, or 4.8 per cent of the total population. Scores from the *Ginn Reading Achievement Test* were also gathered for these 451 students. This test is administered at the completion of the basic text in each grade.

The purpose of the study was to find out how well these students were achieving in reading. The following tables show what percent of the sample in each grade maintained a consistent performance. Categories were defined as follows:

1. *Consistent High Achievement* is rated only by those with high IQ (above 126) who scored high in reading readiness in kindergarten and maintained a high level of achievement in the successive reading achievement tests through the grade levels shown.

2. *Improved Achievement* includes all those gifted youngsters who advanced from one level of achievement to a higher level on subsequent tests.

3. *Average Maintained* is indicated when a student with high IQ rated only average on the initial reading readiness test and maintained average achievement on successive tests.

4. *Decrease in Test Score* indicated the percent who failed to maintain the beginning level of achievement.

Table 1 shows that approximately one-fourth of the 451 superior students were not achieving up to the level of their capabilities. These were the students classified as "average maintained" and "decrease in achievement."

TABLE 1
Percentage of Pupils, Grades 1-4, in Each Achievement Category

Category	First Grade N=117	Second Grade N=132	Third Grade N=107	Fourth Grade N=95
Consistent high achievement	37%	23%	36%	45%
Improved achievement	40%	49%	36%	32%
Average maintained	16%	22%	14%	8%
Decrease in achievement	7%	6%	14%	15%

Approximately one-third of these students with superior intellect consistently scored high on reading achievement tests. Of course, there are many variables which affect a student's test scores; however, these results indicate that there are many gifted youngsters not achieving up to their capability.

Part III: Higher Education

Honors programs, college entrance with advanced standing, and early admission to college are three methods used to better meet the needs of gifted students in higher education. The latter two programs are designed to accelerate able students according to their ability and to avoid repetition in high school and college work. The number of schools participating in the Advanced Placement Program has increased from 12 at its beginning in 1951 to nearly 2,000 at present.

Most of the research and literature dealing with the education of gifted children is concerned with elementary and secondary pupils. Gifted students in higher education have been neglected. This is regrettable when one realizes that there are well over 2,000 gifted young persons in our institutions of higher learning. The academically talented are the ones who should continue their education past high school, yet we frequently forget they might need some special provisions at the college level, also. Much more research and interest are needed in this area.

ZIMMERMAN, MILDRED. "An Exploration of Musical Giftedness Among Prospective Elementary Classroom Teachers."

In this study the most musically gifted of a group of elementary teacher candidates were identified by using three different methods. The writer was the instructor in a course entitled "Music for Elementary School Teachers" and met with the students in a laboratory section in groups of no more than ten. The laboratories were organized at three levels according to previous musical experience and training. Musical ability ranges from one extreme to the other among students. These abilities are readily revealed in the

laboratories, and it is from these sections that the subjects were drawn for the study.

Fifty-two juniors in the School of Education were enrolled in these laboratory sections and were used as the subjects in this study. The following information was gathered about each student: (1) size of hometown and father's occupation, (2) *School and College Ability Test* score (SCAT), (3) grade-point average, (4) past musical training, (5) laboratory level, and (6) pretest and post-test scores on the *Gaston Test of Musicality*. Toward the end of the semester, the instructor rated the 52 students according to her opinion of their musical giftedness and placed them in five categories: Group A, the most gifted; Group B, next most gifted; and so on down to Group E, the least gifted. The students were assigned to one of the five categories using a composite judgment of four criteria: progress through the semester, creative ability, performing ability, and choice of materials used in demonstration lessons.

The Friedman two-way analysis of variance[1] was used to obtain the degree of relationship between teacher judgment and the results of three tests: the SCAT scores, the Gaston pretest scores, and the Gaston post-test scores. All three of the correlations were low: Gaston pretest $r=.327$; Gaston post-test $r=.492$; and SCAT scores $r=.49$.

The writer gave four possible reasons for the low correlations. These were (1) the Gaston test measures certain criteria while the teacher opinion ratings used more and different criteria, (2) the problem of treating the amount of previous musical training in the teacher rating, and (3) teacher rating was based essentially on response and participation in class.

Further comparisons between Group A (most gifted in music) and Group E (the least gifted) yielded the following observations:

1. Comparison of SCAT scores or grade-point averages with either the teacher rating or the Gaston test scores showed how diverse the relationship could be.

2. All fathers of students in Group A belonged to the semiprofessional or professional class.

3. One-half of the students in Group A had an overall grade point average of "B" or better. All those in Group E had "C" averages.

4. Only one student in Group A had no previous musical training. No students in Group C had previous musical training.

5. Students who were rated higher on musical giftedness by the instructor also obtained higher SCAT scores and higher scores on the Gaston test than

[1] Sidney Siegel. *Nonparametric Statistics for the Behavioral Sciences*. McGraw-Hill, New York, 1956, p. 170.

did those students rated the least gifted in musical ability by the same instructor.

HUGHES, MARY. "A Comparison of the Attitudes Toward Giftedness of Education Majors with High and Low Grade Point Averages."

This study was designed to find additional information concerning the variables related to favorable attitudes of future teachers toward giftedness. Specifically, the purpose of the study was to examine the relationship between students with high and low grade-point averages and their attitudes toward the education of gifted youngsters. The assumption was made that those with the highest grade-point averages could be classified as gifted students. The writer wanted to find out if gifted future teachers would have more favorable attitudes toward the education of gifted children.

Five classes of undergraduates at the University of Kansas majoring in Education were selected as subjects for this study. A total of 114 students, of which 66 were seniors and 48 juniors, were included in the sample. A two page questionnaire on "attitudes toward giftedness" was administered to these students. Grade-point averages were then figured for each of the subjects and the questionnaires were arranged in order according to the students' GPA. All those with grade-point averages of 2.20 (B+) and above were designated as the gifted group (N=21). An equal number was taken from the lower end of the scale (1.30 and below).

The gifted group showed consistently more positive attitudes toward the gifted. Tabulation of the results indicated that:

1. Those students with high grade-point averages in college had a more favorable conception of a gifted person than those students with low grade-point averages. The greatest differences in the responses suggested that the high group more often feel that (a) gifted people contribute more in class, (b) gifted people are physically superior, and (c) gifted people are not more emotionally unstable than those in the low group.

2. The gifted group of college students showed more favorable attitudes toward giftedness in their personal relationships. In comparison with the students in the low group, the students with high GPA's indicated they (a) enjoyed doing things with gifted people, (b) would like their children to be gifted, and (c) preferred to teach a class of gifted youngsters.

3. The gifted group were more inclined to favor special educational provisions for gifted youngsters and to set higher goals for them. The high group was more often in favor of (a) acceleration of gifted children, (b) special provisions for gifted children, and (c) gifted students being put into special classes. They also were more inclined to feel that colleges and universities do not make adequate provisions for gifted children.

This study seems to indicate that college students with high grade-point averages tend to have more favorable attitudes toward giftedness than those with lower averages. The writer made the suggestion that we should encourage more students with high scholastic averages to enter the field of teaching the gifted. Since their attitudes were more favorable, they would be better able to understand the gifted child and consequently do a better job of teaching children with superior intellect.

JUPE, MARGARET. "Why Some Gifted Musicians Are Not Planning a Musical Profession."

Some people are gifted musically, but they are not proceeding toward a musical career. The writer of this investigation interviewed all the members of the cast of a university production of an opera and of the Chamber Choir of the University of Kansas who were not enrolled as music majors. Considering the basis for selection for membership in each of these two music groups and the time each involved for little or no credit, two basic assumptions were made: (1) the members of these groups were gifted in performing vocal music, and (2) the members of these two groups had considerable interest in performing vocal music.

Each non-music major in these two groups was interviewed from 30 to 45 minutes by the writer. The 13 students interviewed were studying in the following fields: engineering, commercial art, political science, English, education, mathematics, French, psychology, sociology, and educational psychology. The musical training of these students was quite varied. Five had never studied voice and three had studied only one or two years; yet, all were selected from many applicants because of their singing ability. Every student had played some instrument for at least two years and had participated in most of the musical activities available to them in school or their home community. Their experiences varied from high school chorus and church choir to actual professional work on the stage.

All but one of them said their parents' attitudes toward music were positive. In spite of this strong family interest in music, one of the principal reasons given for not entering a musical profession was parental discouragement. Lack of job security was another major reason given for avoiding a musical career. Nearly all the subjects mentioned low salaries as a deterrent in choosing music. The most important reason these students gave for not majoring in music was a doubt of their own ability in music, even though 11 of them had considered a vocation in music.

After interviewing these musically talented people, the writer concluded that some teachers, counselors, and music teachers have not been guiding students according to their real abilities and interests. She suggested the main reason talented people do not go into music professionally is that our society does little to encourage them since it places very little emphasis or value on this particular type of talent.

FRIESEN, JOHN W. "The Feasibility of an Honors Program at the Junior College Level."

It was the purpose of this investigation to examine the feasibility of better serving academically superior youngsters by establishing an honors program at a junior college in the Midwest. In order to further investigate this problem and to probe into the idea of student reaction, an opinionnaire was administered to 83 freshmen, 64 boys and 19 girls. This was approximately one-half of the freshman class.

The results of the opinionnaires showed that over one-third of the freshmen in the study had high school grade-point averages of "B" or better. The students came from both small and large high schools. Fifty-three of the 83 students had been in the upper half of their graduating class in high school.

The writer felt it was significant that only 14 of the students in the study had attended a high school with any kind of training or special programs for gifted and specially talented students. Even though nine of the students had participated in such programs, only two made the Honor Roll their first semester in the junior college.

Several items on the opinionnaire included reference to the idea of inaugurating some system of additional educational experience for those with special abilities. Of the 83 freshmen in the study, 52 indicated they were in favor of seeing such an endeavor started. The subject areas in which they felt the greatest need for an honors program were mathematics, science, English, and the social sciences.

One observation was that 44 students indicated that talented or gifted students generally were neglected in their junior college. The writer concluded that it seemed logical and beneficial to the junior college if some type of special arrangement were made for the specially talented.

KELLY, KAY. "A Study of the Differences in Attitudes toward Giftedness and the Concept of Giftedness among Four Groups of Teachers."

Do the people teaching in our schools now or those preparing to teach have misconceptions concerning giftedness? Does exposure to information about gifted youngsters make a difference in people's opinions? In an attempt to answer the above questions, a questionnaire was constructed and administered to 120 subjects. The purpose of the questionnaire was to see if there were any differences in the attitudes toward giftedness and the concept of giftedness among four groups of people. The groups were made up of seniors in education, teachers in special education, people who were teaching or working in a school system and taking graduate work at the University, and people taking a graduate course entitled "Education of Gifted Children."

The questionnaire consisted of 14 questions divided into subsections. It was made up of two basic parts. The first related to information about the

person taking the questionnaire and enabled the investigator to classify the subjects according to male or female, type of position now holding, years of experience, area of education (elementary, secondary, college), special field if any—mentally retarded, emotionally disturbed, etc. The second part of the questionnaire related to items attempting to measure people's attitudes toward and concepts of giftedness.

The results of this study were surprising to the writer in that most of the people not exposed to special classes concerning the gifted seemed to be well informed on the subject. Before administering the questionnaire, eight hypotheses were formulated. These are given below, with the results indicated by this study given in parentheses.

1. That seniors in education would have a different concept of giftedness and different attitudes toward the gifted than those exposed to information concerning the gifted. (FALSE)

2. That those people in the class, "Education of Gifted Children," would have the most favorable attitudes toward and the best understanding of giftedness. (FALSE)

3. That those in special education would have a better concept of the gifted than those not exposed to any special education courses. (FALSE)

4. That those who have been out in the teaching field for several years but who are going to the university for a graduate course or two would have misconceptions of the gifted. (FALSE)

5. That most of the people prefer teaching a regular class to a gifted class if there were no pay increment. (FALSE)

6. That people lacking in information concerning the gifted would consider creative and gifted to be synonymous terms. (FALSE)

7. That more people taking the class, "Education of Gifted Children," would consider themselves gifted than the other groups. (FALSE)

8. That those unfamiliar with studies done on giftedness would not be able to identify some of the traits possessed by many gifted individuals. (TRUE)

Besides the above-mentioned results, an interesting fact did come to light while tabulating the responses. The women in special education and in the group of presently practicing teachers preferred to teach a regular room even when there was an increase in pay for a gifted room while just the opposite occurred with the men. They preferred a gifted room even when there was no pay increase. This led the writer to ask the question, "Could this be due to the fact that women do not feel confident or adequately prepared to teach a room of gifted students?"

CURRY, ROSAYN. "A Comparative Study between Students of Superior Academic Achievement and Success in Student Teaching."

In this study the writer attempted to discover how the success of student teaching related to intelligence as indicated by grade-point average. The criterion to determine the degree of success attained in student teaching was the rating given by the college supervisor.

College supervisors of student teachers were asked to rate student teachers and cooperating teachers, using a seven point scale ranging from excellent (1) to poor (7). Fifty-three student teachers and fifty-four cooperating teachers were rated. One student had two cooperating teachers during the two month period of student teaching. Seventy-three per cent of the student teachers in the top three categories of the scale had cooperating teachers rated in the top three categories, also.

Grade-point averages were figured for the student teachers (A=3.0, B=2.0, C=1.0), and they were arbitrarily placed in three intervals. There were no averages below 1.0 because this is the minimum average required to do student teaching.

The tabulation below shows the comparison, on a percentage basis, between grade-point averages and student teaching ratings. Ratings get lower consistently as grade-point averages decrease.

TABLE 1

A Comparison of Grade-Point Averages and Student Teaching Ratings

GPA	Student Teacher Rating			
	1 or 2	1, 2 or 3	4 or 5	6 or 7
2.00+	50%	83%	17%	0
1.50-1.99	30%	59%	41%	0
1.00-1.49	23%	54%	39%	7%

The evidence presented above indicates that if grade-point average is a somewhat reliable measure of intelligence there is a high positive relationship between intelligence and student teaching success.

Part IV: Educational Provisions and Programs

It is important to be aware of the characteristics of gifted children, and even though the task is difficult, to identify them properly. But all this is for naught, if we do not do something for them after they are located. What type of educational provisions should be made for this exceptional group? Perhaps the following studies should be listed under "Our Most

Retarded Group," for the academically talented are the most retarded group of youngsters in our schools. Most of our brighter pupils are capable of doing much more than the meager fare which is doled out to them each day in the classrooms throughout the country. It is an accepted fact that the gifted youngsters in our schools are capable of doing work two or three years above the grade level in which they are placed according to their chronological age. How can we expect them to be challenged and motivated if we continue to give them tasks to accomplish which they mastered two or three years previously?

The three most common administrative provisions to meet the needs of the gifted are (1) enrichment in the regular classroom, (2) special classes, and (3) acceleration. Enrichment often looks better on paper than in actual practice. A teacher with 30 pupils in her classroom finds it difficult to provide enriched experiences and activities for two or three exceptional pupils. Special classes are not undemocratic. If we believe that it is inherent in our democracy that every boy and girl is entitled to an education to the limit of his or her capabilities, then some sort of special grouping will solve this problem for our "retarded" gifted youngsters. The disadvantages of acceleration have been proven to be few, yet acceleration is not widely used. No harmful effects have been shown by research. In fact, research has shown the accelerated student to have an advantage over the "retarded" one, an advantage which exists after college.

This writer conducted a survey of public school administrators to attempt to determine (1) what opinions administrators had about the education of gifted children in their schools, and (2) what educational provisions they are offering for gifted youngsters in their schools. Even though the survey was limited to one state, the results are probably representative of school administrators throughout the Midwest. The results were not encouraging as enrichment was still the most popular type of offering to these academically superior youngsters with special classes and acceleration held in disfavor by many. Many administrators indicated they did not desire to initiate any type of special program for the gifted even if state funds were provided. The responses to the opinionnaire brought out the fact that we still have far to go to bring about a better understanding of the necessity for some kind of special educational provision for gifted students.

Research has not shown any one method of grouping for the gifted to be superior over another. Perhaps it never will. But any type of special instruction that has been given to this group has been beneficial, especially when the content and methodology are different from the regular classroom. The following reports tell what some are doing to better provide for these children who can later make such valuable contributions to our society.

MARCH, ARDUTH, and DONOHO, MARILYN. "An Accelerated Program in Language Arts for Kindergarten Children with Superior Intellect."

The purpose of this study was to explore the feasibility and desirability of an accelerated reading program for children with superior intellect at the kindergarten level. The sample for the study consisted of two groups of kindergarten children. Ten children were selected for the experimental group and ten children for the control group. The children in both groups were matched as nearly as possible on the basis of sex, chronological age, and IQ. They were picked on the basis of their total performance in the group based on their progress during the first eighteen weeks of their formal school training. In making this decision, consideration was given to their mastery of subject matter in all instruction areas. These children ranged in age from five years eight months to six years six months. Some were transferred from the youngest class to the oldest class to enable them to participate in the accelerated program.

The pupils in the experimental group were given the *Metropolitan Readiness Test* before formal instruction began. Beginning the third week in January, the experimental group met three days each week continuing through May. These pupils followed a formal readiness program using *Getting Ready to Read*. The control group continued in the regular kindergarten classes using varied activities and materials for their readiness program.

A post-test comparison was made to determine whether or not any significant differences on total test scores existed between the experimental and the control group after the readiness and reading programs. Raw scores were compared for the two groups on the *Prereading Inventory of Skills Basic to Beginning Reading*.

A *t* test was used to determine if any significant difference existed between the two groups. The mean for the experimental group was 79.2, with a standard deviation of 1.09. For the control group, the mean was 65.7 with a standard deviation of 8.39. The value of *t* obtained for the test was significant beyond the .01 level. Due to this significant difference between the means of the two groups, it was concluded that the two conditions, regular grouping and formal readiness grouping, do produce differences in performance. Teacher observations were also more favorable toward the readiness grouping. In view of the data presented in the project and the observation of the investigators, it seemed that a formal instruction period was more effective than informal instruction with kindergarten children.

MERSON, ROBERT E. "A Suggested Curriculum for Language Arts for Gifted Students in High School."

With the cooperation of the Kansas State Department of Public Instruction, classes were initiated for gifted students in English in two rural high

schools. The classes consisted of students who tested 130 or higher on the *Stanford-Binet Intelligence Scale* or on the *Wechsler Intelligence Scale for Children*.

The following is a brief description of the curriculum adopted for these classes:

Literature-oriented Course—Basically, the course was centered around the study of literature with students choosing an area of literature for study. Then each student selected an author from this particular period of writing and did extensive reading of his works as well as the author's background. Several students were responsible for finding information about the literary trends of a particular period. They gave oral reports to the class, and then each class member tried to relate, if possible, his author and selections significantly to the period of literature.

A list of readings which had been chosen by the instructor was given to the students at the beginning of the school term. These were read throughout the year and discussed in the latter part. Seniors were assigned readings in English literature and juniors in American literature. Round table discussions were held to consider the style and theme of each selection.

Selections for the entire class discussion were chosen from a textbook. The students were exposed to various types of philosophical thought through reading and discussing Kant, Rousseau, Voltaire, Machiavelli, Schopenhauer, Plato, Aurelius, and Omar Khayyam.

The students were further asked to read 20 books which are listed in the College Preparatory Reading List. Also, many books which were not included in the list could be added with permission.

Critical Thinking—At the beginning of the year the junior-senior group was exposed to the Guilford method of thinking: cognitive, convergent, divergent, and evaluative. They learned what these types of thinking are as well as the ability to recognize them readily when they or others are practicing them. A traditionally taught unit is covered in critical thinking which exposes the students to inductive and deductive thinking, syllogistic reasoning, semantic problems, patterns of reasoning, and techniques of propaganda.

Writing—Most writing was of an expository nature which consisted primarily of critical analyses. Articles from *Harper's*, *Atlantic*, and *Saturday Review* were critically evaluated according to the following criteria: (1) Does the work seem to deal directly with the topic or merely to touch the fringe? (2) Is the author's point of view objective and impartial? (3) Is the language generally free of emotion-arousing words and expressions such as "moron," "blackguard," "hoodlum," "traitor" etc.? (4) Are there more statements of fact than of opinion? (5) Are the opinions expressed the logical conclusions of the evidence presented? (6) Does the support for opinions come from known, reliable authorities? (7) When figures are

given on population, wages and hours, crops, rainfall, and the like, are dates included? and (8) Are statements substantiated whenever necessary by footnote references?

Every two weeks the students were required to submit a creative writing selection in one of three forms: poetry, essay, or short story. Students were required to choose different areas for creative expression. Many of the selections were used in the school literary magazine.

Two areas which do not fit in the preceding categories were as follows:

Thematic Reading Unit—The sophomore class was required to choose one of 12 thematic areas. A few illustrative examples of the 12 are "Man's Inhumanity to Man," "The Individual and His Introduction to the World of Strife," "Man and Nature," "Quest and Conquest," and "Religion and Search for Certainty in a World of Doubt." The students submitted a paper which developed their chosen central theme.

Great Books Discussions—Throughout the school year the students attempted to define various abstract terms: love, punishment, duty, happiness, and fate. They read excerpts from the *Great Books of the Western World* which pertained primarily to the definition of the terms. After various selections were read, a class discussion was held.

At the conclusion of the school year, the teacher made the following observations in regard to this curriculum: (1) Possibly some areas in the Thematic Reading Unit were somewhat advanced for sophomore students. (2) It was found that a research-oriented program in literature was much more time-consuming than regular literature study. (3) A concerted effort to inculcate the Guilford Method of Thinking into discussions and papers is necessary throughout the year, rather than only at the beginning of the year. (4) More individual study assignments should be made available for the more mature students who have particular areas of interest. Also, closer coordination of research projects with other departments which require work in addition to that of regular class activities should be planned. (5) Several students, although intellectually capable, were deficient in the mechanics of writing: punctuation, grammar, usage, etc. Also, specific exercises in spelling and language usage should be used with the student throughout the year.

HAWES, DOW B. "A Survey of Gifted Students in Special English Classes Regarding Their Views of the Class."*

All students enrolled in "Special English" were presented with a duplicated, open-end, two page opinionnaire. Directions given and the statements were:

---

* This study was an evaluation of the preceding curriculum study by Robert E. Medland.

We are engaged in the first state-approved program for superior students and are establishing a basis which other programs will follow. Since there were no guide lines to tell us the best methods to use we have tried several approaches and would like your opinion of them. Please finish the sentences to make complete thoughts and then explain in detail. Do not sign your name.

1. I like the *subject matter* because
2. I dislike the *subject matter* because
3. Discussion in the room
4. The atmosphere in the room
5. I would change

Each comment by the students was rated by the writer and the guidance counselor in each school according to the pre-determined categories. All responses could not be classified in these pre-determined categories, as in each case some responses were non-commital (indefinite) regarding educational value, personal feeling, or no response was given.

A summary of the responses is given in Table 1.

TABLE 1
Responses of Gifted Students to Questions about Special English Classes

General Areas	Classified Responses	Total Scorable Responses
A. *I like the subject matter because:*		38
1. Views as a challenge	16	
2. Broadens knowledge	22	
B. *I dislike the subject matter because:*		35
1. Views as too much work	6	
2. Finds it boring or is not interested (in some phases)	10	
3. Finds it confusing	7	
4. No dissatisfaction	12	
C. I. *Discussion in the room: Amount*		32
1. Too much	2	
2. Just right (includes inferred satisfaction)	23	
3. Too little	7	
II. *Discussion in the room: Feeling*		27
1. Threatens	8	
2. Challenges	19	

TABLE 1 (continued)

D. *Atmosphere in the room:*		30
1. Formal—pleasant	6	
2. Informal—pleasant	23	
3. Poor	1	
E. *I would change*		32
1. Nothing	8	
2. Curriculum: addition	8	
3. Curriculum: deletion	8	
4. Instructional method	8	

That one-fourth of the students would add to the curriculum, one-fourth would delete from it, and one-fourth would change nothing is ironically the most consistent finding: that it was a homogeneous group of high ability students with very heterogeneous ideas.

JAMES, NANCY. "The Relative Value of Four Measurements in Predicting Success in an Advanced Mathematics Program."

The purpose of this study was to test the effectiveness of four different measures in predicting success in an advanced math program for academically superior junior high school students. The decision to place a student in this program was largely based on five measures: his IQ; teacher recommendation from his elementary school; his percentage score on the *Orleans Algebra Prognostic Test;* his raw score on a test made up by the math teachers at the school; and his previous achievement in mathematics.

Subjects for the study were 61 seventh grade students who were enrolled in the advanced math program. Because the usual educational definition of "success" is interpreted as a high grade-point average, this study used the students' grade-point average after their first year in the advanced math program as a basis for determining the effectiveness of the other four measures. The 31 students with the highest average represented the "successful" group, and the 30 students with the lowest averages represented the "unsuccessful" group.

To test the effectiveness of each measurement in predicting success, a percentage of effectiveness was determined by comparing the number of "successful" students who were within the top half of the ranges of scores to the number of students who formed the top half of the scores on that particular test. For instance, on the intelligence test (IQ), 17 "successful" students were in the top group of scores giving a ratio of 17/30, or expressed as a percentage, 53.3%.

The teacher recommendations were 54.8% effective, the Orleans Test was 67.7%, and the teacher-made test had the highest rate of effectiveness in

predicting success, 73.3%. Because these percentages seemed rather low, it was felt that perhaps the measurement might be more effective in predicting success within the higher range of grades. Instead of defining the top 50% of the students as "successful," the top 25% were used to designate the "successful" students. This did change the percentages quite drastically. The teacher recommendations jumped from 54.8% to 80% effective, the IQ from 53.3% to 66.6%, the Orleans Test from 67.7% to 80%, and the teacher-made test from 73.3% to 91.7%.

The writer concluded that these tests were only effective in predicting success if success was defined as being in the upper one-fourth of the group. The teacher-made test was the most accurate. It was hypothesized that the low effectiveness of the teacher recommendations was that some of the students were transfer students and were not as well known. The writer could give no explanation for the low effectiveness of IQ as a measure of predicting success.

MILLER, NANCY. "How Well Does Homogeneous Grouping Meet the Needs of Gifted Students?"

The purpose of this study was to test the hypothesis that academically superior children grouped homogeneously by reading achievement would be homogeneous in achievement in all subject areas. It is questionable that by limiting each group to a narrow range in reading test scores, individual differences in all subject areas have been limited.

At the close of their fourth grade year in school, 100 students were grouped for homogeneous instruction for the following 1965-1966 school year through a combination of reading achievement scores obtained on the *Iowa Test of Basic Skills* administered in September, 1964, and teacher evaluation of reading ability. Again, in September, 1965, these 100 students were retested by means of the ITBS to confirm such placement as had been recommended at the termination of the preceding academic year.

The children were divided into four fifth-grade classes on the basis of their grade equivalent in reading. Children in Class A, the highest class, had grade equivalents that ranged from 5.7 to 9.4. The high average class, Class B, had grade equivalents that ranged from 4.0 to 7.2. Class C, the low average class, had grade equivalents that ranged from 2.7 to 7.2. Class D, the lowest class, had a range from 2.5 to 4.6 in grade equivalents.

The number of pupils in each homogeneous class, the range in percentile rank, the range in grade equivalents, and the median in grade equivalents according to reading achievement scores on the ITBS are found in Table 1. The same information in regard to the composite achievement score is given in Table 2.

TABLE 1
Four Fifth-Grade Classes Grouped According to Reading Scores on ITBS

	Class A	Class B	Class C	Class D
Number of pupils	28	25	27	19
Range in Percentile Rank	66-99	24-92	3-92	2-37
Range in Grade Equivalents	5.7-9.4	4.0-7.2	2.7-7.2	2.5-4.6
Median in Grade Equivalents	7.2	5.6	4.9	3.8

TABLE 2
Information on Four Fifth-Grade Classes in Regard to Composite Score on ITBS

	Class A	Class B	Class C	Class D
Number of pupils	28	25	27	19
Range in Percentile Rank	73-99	51-91	24-90	4-29
Range in Grade Equivalents	5.9-8.6	5.0-6.8	3.9-6.7	3.2-4.5
Median in Grade Equivalents	7.1	5.7	5.1	3.7

Tables 1 and 2 show ranges existing in the total group of 2.5 to 9.4 and 3.2 to 8.6. The grouping procedure suggested that the top, or more gifted group, was more homogeneous.

TABLE 3
Subtest Scores for Four Fifth-Grade Classes Grouped According to Reading Achievement Scores

	Class A	Class B	Class C	Class D
Vocabulary	6.0-8.9	4.7-8.2	3.5-7.5	3.2-5.5
Reading	5.7-9.4	4.0-7.2	2.7-7.2	2.5-4.5
Spelling	3.2-9.0	3.4-8.2	2.7-7.2	2.0-4.2
Capitalization	4.9-8.5	4.3-7.6	2.9-7.2	2.7-5.1
Punctuation	6.1-8.7	4.1-6.8	3.0-7.2	1.9-5.6
Usage	5.0-8.7	3.9-8.2	2.3-7.9	2.3-4.8
Total Language	5.2-8.6	4.6-6.8	3.6-6.4	2.6-4.4
Maps	5.7-8.9	4.7-6.8	3.8-6.8	2.6-4.9
Graphs	6.1-9.3	4.3-6.9	3.5-7.4	2.9-5.8
References	5.6-9.0	4.4-7.4	2.7-7.6	2.7-5.0
Total Work Study	6.1-8.8	4.7-6.6	3.8-6.9	2.9-4.9
Arithmetic Concepts	4.2-8.5	4.2-8.5	3.7-6.0	2.5-4.9
Arithmetic Problems	4.6-7.2	2.9-6.3	2.9-5.7	2.4-5.1
Total Arithmetic	4.8-7.8	4.0-6.5	3.4-5.8	2.7-4.9
Composite	5.9-7.7	5.0-6.8	3.8-6.7	3.2-4.5

In Class A, which contained the gifted students and those reading above average, the smallest range, 2.6 years, was found in the punctuation and arithmetic problem subtests. The greatest range of 5.8 years was found in spelling. On graph work, this class ranged 4.3 years above grade level and 4.4 years above grade level in reading. Yet, in spelling some students fell nearly two years below grade level.

It can be seen from Table 3 that homogeneous groups differentiated only on the basis of reading achievement scores yield, in fact, highly heterogeneous classes when the entire spectrum of all the subject areas are considered. Thus, it seemed unjustifiable to accept the hypothesis that was stated as the primary purpose of the study. Rather, homogeneous grouping by reading achievement does not provide for homogeneity in all subject areas. This further suggests that the common practice of meeting the needs of gifted youngsters by grouping them homogeneously is not as adequate as many think.

Available Issues of KANSAS STUDIES IN EDUCATION

Those issues of *Kansas Studies in Education* which are still in print are listed below. Copies may be secured at cost by requesting them from the Dean, School of Education, The University of Kansas, Lawrence, Kansas.

Vol. 2, No. 6, *Abstracts of Doctoral Dissertations in Education*, by Mary Fee, Reid Hemphill, J. M. Jantzen, L. A. Fleming, E. D. Lock, E. Thayer Gaston, C. H. Brown. 1941, 79 p.

Vol. 3, No. 3, *A Summary Report to the North Central High Schools of Kansas on Criterion 5: School Plant and Equipment*, by Kenneth E. Anderson, with an addendum: "Acoustical Considerations of School Buildings," by James E. Nickerson. April, 1953, 24 p.

Vol. 4, No. 1, *A Summary Report to the North Central Schools of Kansas on Criterion 3: School Staff*, by Herbert A. Smith and Kenneth E. Anderson. April, 1954, 24 p.

Vol. 4, No. 2, *Body Measurements of Male Students Entering the University of Kansas*, by Edwin R. Elbel. May, 1954, 24 p.

Vol. 5, No. 2, *A Summary Report to the North Central High Schools of Kansas on Criterion 4: Administration and Supervision*, by Herbert A. Smith and Kenneth E. Anderson. April, 1955, 62 p.

Vol. 7, No. 1a, *Who Would be Eliminated? A Study of Selective Admission to College*, with an addendum: "The Class of 1958," by George B. Smith. December, 1956, 28 p.

Vol. 9, No. 1, *Let's Look at the Record! The High School Preparation of 1124 University of Kansas Freshmen*, by George B. Smith. September, 1958, 71 p.

Vol. 10, No. 2, *A Study of Questionnaire Responses from Kansas High School Participants and Non-Participants in the National Merit Scholarship Testing Program*, by A. W. Dirks and Kenneth E. Anderson. April, 1960, 28 p.

Vol. 11, No. 1, *A Study of the Relationships Between Grade-Point Averages, Placement-Test Scores, Semester Hours Earned, and Area of Major Interest, for the Group Who Entered The University of Kansas in the Fall of 1954*, by E. L. Barnhart and Kenneth E. Anderson. January, 1961, 36 p.

Vol. 12, No. 1, *Heights and Weights of College Students*, by Edwin R. Elbel and Ralph L. Canuteson. March, 1962, 24 p.

Vol. 12, No. 2, *A Study of the Interest in Art of Adults with and without Elementary School Creative Art Experience*, by Maud Ellsworth and Dana F. Johnson. April, 1962, 22 p.

Vol. 13, No. 1, *A Proposal for the Administrative Unit of Educational Organization in Kansas*, by Phil A. Cook. September, 1962, 40 p.

Vol. 13, No. 2, *The University of Kansas Conference on Team Teaching*. February, 1963, 31 p.

Vol. 13, No. 3, *A Study of 6,750 Kansas High School Seniors in 101 North Central Association Schools*, by Kenneth E. Anderson, Dale P. Scannell, and Lawrence T. Canto. June, 1963, 28 p.

Vol. 14, No. 1, *Let's Look at the Record Again!* by George B. Smith. September, 1963, 92 p.

Vol. 14, No. 2, *The University of Kansas Conference on External Testing Programs*. January, 1964, 24 p.

Vol. 14, No. 3, *Physiological Determinants of Behavior: Implications for Mental Retardation*. June, 1964, 117 p.

Vol. 15, No. 1, *Publications of the School of Education, University of Kansas, 1921-1964*, by Rose O. Armstrong. April, 1965, 44 p.

Vol. 16, No. 1, *Studies of the Language Arts in Grades 7-13 at the University of Kansas*, by Oscar M. Haugh and Edwyna P. Condon. January, 1966, 48 p.